

WTIO30 FMEE 230700

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 9/4/20222023

1.A INTENSE TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/23 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 12.5 S / 84.3 E
(TWELVE DECIMAL FIVE DEGREES SOUTH AND
EIGHTY FOUR DECIMAL THREE DEGREES EAST)
MOVEMENT: WEST 6 KT

3.A DVORAK ANALYSIS: 5.5/5.5/D 1.0/12 H

4.A CENTRAL PRESSURE: 950 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 90 KT
RADIUS OF MAXIMUM WINDS (RMW): 10 MN

6.A EXTENSION OF WIND BY QUADRANTS (KM):

28 KT NE: 205 SE: 335 SW: 240 NW: 165
34 KT NE: 155 SE: 325 SW: 185 NW: 150
48 KT NE: 95 SE: 110 SW: 70 NW: 75
64 KT NE: 55 SE: 65 SW: 45 NW: 45

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1005 HPA / 1000 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/23 18 UTC: 12.6 S / 83.0 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 195 SE: 325 SW: 335 NW: 185
34 KT NE: 140 SE: 195 SW: 155 NW: 130
48 KT NE: 85 SE: 95 SW: 75 NW: 85
64 KT NE: 55 SE: 65 SW: 65 NW: 45

24H: 2022/12/24 06 UTC: 13.0 S / 82.5 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 230 SE: 335 SW: 325 NW: 215
34 KT NE: 165 SE: 195 SW: 150 NW: 140
48 KT NE: 95 SE: 95 SW: 75 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

36H: 2022/12/24 18 UTC: 13.7 S / 83.0 E, VENT MAX= 090 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 250 SE: 360 SW: 325 NW: 215
34 KT NE: 165 SE: 215 SW: 150 NW: 140

48 KT NE: 95 SE: 95 SW: 75 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

48H: 2022/12/25 06 UTC: 14.9 S / 83.7 E, VENT MAX= 085 KT, TROPICAL CYCLONE
28 KT NE: 250 SE: 360 SW: 325 NW: 240
34 KT NE: 165 SE: 220 SW: 155 NW: 155
48 KT NE: 95 SE: 95 SW: 75 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

60H: 2022/12/25 18 UTC: 16.0 S / 84.0 E, VENT MAX= 080 KT, TROPICAL CYCLONE
28 KT NE: 240 SE: 380 SW: 350 NW: 230
34 KT NE: 165 SE: 240 SW: 165 NW: 155
48 KT NE: 85 SE: 95 SW: 75 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

72H: 2022/12/26 06 UTC: 16.6 S / 84.0 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 260 SE: 415 SW: 390 NW: 230
34 KT NE: 175 SE: 260 SW: 165 NW: 150
48 KT NE: 95 SE: 100 SW: 75 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 55

2.B LONGER-RANGE OUTLOOK:

96H: 2022/12/27 06 UTC: 17.9 S / 82.6 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 230 SE: 490 SW: 400 NW: 205
34 KT NE: 150 SE: 305 SW: 205 NW: 130
48 KT NE: 55 SE: 110 SW: 75 NW: 65

120H: 2022/12/28 06 UTC: 20.1 S / 77.9 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 250 SE: 445 SW: 345 NW: 165
34 KT NE: 150 SE: 285 SW: 185 NW: 110
48 KT NE: 60 SE: 80 SW: 70 NW: 50

2.C ADDITIONAL INFORMATION:

T=5.5 CI=5.5

DURING THE LAST 6 HOURS, THE INFRA-RED SATELLITE IMAGES CONFIRM THE INTENSIFICATION OF DARIAN WITH A WELL MARKED EYE AGAIN, COLDER CLOUD TOPS AROUND THE CENTER AND A WARMER TEMPERATURE IN THE HEART OF THE EYE. MOREOVER ON THE VISIBLE IMAGE THE EYE IS AGAIN WELL VISIBLE. THE INTENSITY ESTIMATE IS SLIGHTLY INCREASED WITH WINDS OF 90 KT. DARIAN BECOMES AGAIN AN INTENSE TROPICAL CYCLONE.

LITTLE CHANGE ON THE PHILOSOPHY OF THE FORECAST:

DARIAN CONTINUES TO TRACK WESTWARD, GUIDED BY A RIDGE OF MID TO HIGH TROPOSPHERE LOCATED FURTHER SOUTH. ON SATURDAY, THE SYSTEM IS EXPECTED TO MAKE A SHARP TURN TO THE SOUTH-SOUTHEAST OR SOUTHEAST WHILE SLOWING ITS PROGRESS. THIS CHANGE IN TRAJECTORY IS DRIVEN BY THE TEMPORARY WITHDRAWAL OF THE SUBTROPICAL RIDGE AND THE RESUMPTION OF THE STEERING FLOW BY THE NEAR EQUATORIAL RIDGE TO THE NORTH. EARLY NEXT WEEK, DARIAN SHOULD AGAIN BEGIN A SOUTHWESTERLY TURN, IN CONJUNCTION WITH THE SWELLING OF THE SUBTROPICAL RIDGE TO THE SOUTH.

THE CMRS FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST AVAILABLE GUIDANCE. THE DISPERSION IS RELATIVELY WEAK UNTIL SATURDAY THEN BECOMES MORE IMPORTANT AFTERWARDS, DURING THE COMPLEX PHASE OF THE DOUBLE TURN TO THE SOUTH.

THE EASTERLY CONTRAINT SEEMS TO HAVE DECREASED DURING THE NIGHT AND DARIAN SEEMS TO HAVE REACTED TO THIS DECREASE. THE CONDITIONS SEEM TO BE FAVORABLE FOR A CONTINUATION OF A RE-INTENSIFICATION TODAY BUT THIS COULD BE LIMITED WITHIN 24/36H BY THE SLOWER DISPLACEMENT OF THE SYSTEM (COOLING OF THE SST) AND ALSO BY A SLIGHT INCREASE OF THE MID-TROPOSPHERE SHEAR ON SATURDAY NIGHT. FROM TUESDAY ONWARDS, AN INCREASE IN DEEP SHEAR COMBINED WITH INCURSIONS OF DRY MID-TROPOSPHERE AIR AND A DECREASING OCEANIC POTENTIAL SHOULD CONTINUE TO WEAKEN THE SYSTEM.